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10/088,644	03/20/2002	Claus Hillermeier	32860/000282/US	7432

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EXAMINER

GUILL, RUSSELL L

ART UNIT PAPER NUMBER

2123

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,644

Applicant(s)

HILLERMEIER ET AL.

Examiner

Russ Guill

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some. * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to an Amendment filed January 25, 2007. Claims 1 - 43 have been examined. Claims 1 - 43 have been rejected.
2. The Examiner would like to thank the Applicant for the well-presented response, which was useful in the examination process. The Examiner appreciates the effort to carefully analyze the Office Action and make appropriate arguments and amendments.

Response to Remarks

3. Regarding claims 1 - 43 rejected under 35 U.S.C. § 112, first paragraph:
 - 3.1. Applicant's arguments have been fully considered but are not persuasive, as follows.

- 3.2. The Applicant argues:

- 3.3. Claim 1 is directed to a method for simulating a technical system. According to claim 1, a result in the form of an influence of parameters on the technical system is determined as a function of a set of parameters and based on a request to an external source. The result is temporarily stored. The technical system is then simulated based on the result and the setting constants.

- 3.4. In the method of claim 1, the parameters are optimized for a required function, wherein the required function depends on the parameters for configuration or reaction of the technical system and further depends on setting constants, which are static during optimization. Additionally, the required function is optimized with regard to its parameters, and an influence of the setting constants is taken into account

separately from the optimization during simulation. Thus, as set forth in claim 1, the required function includes parameters and setting constants, and the technical system is simulated based on the result and the setting constants.

3.5. Initially, Applicants refer the Examiner to paragraph [0008] of the Substitute Specification, which states in part, "the required function can be split into determination of the influence of the parameters on the technical system and determination of the influence of the setting constants on the technical system."

3.6. Furthermore, an example embodiment concerning setting constants and parameters is disclosed in FIG 1 and the corresponding discussion set forth in paragraphs [0021-0023] of the Substitute Specification. FIG. 1 shows a method for simulation of a technical system. As shown, a required function evaluation 102 may depend on results from external sources. One example of an external source is an external simulator 106, which is linked via a "power station link" interface 105. The required function evaluation 102 may further depend on setting constants (e.g., case cost constants 103) resulting in the following relationship:

$$3.7. \quad f_{\alpha, \beta, \dots}(x) = F_{\alpha, \beta, \dots} \circ \phi(x) \quad x \in R^n$$

3.8. In the above equation 1, f denotes the required function, which depends on the setting constants α, β, \dots and is split into a component F and a component ϕ . The component F includes setting constants, and the component ϕ comprises parameters $x = (x_1, x_2, \dots, x_n)^T$, which may be influenced during the course of the optimization process. The character "O" in denotes that two functions are carried out successively.

3.9. Given the aforementioned discussion and support, the "required function is optimized with regard to its parameters and afterwards an influence of the setting constants during simulation is taken into account separately from the optimization," limitation is clearly and sufficiently disclosed in the specification so as to comply with 35 U.S.C. § 112, first Paragraph. Therefore, withdrawal of this rejection is requested.

3.9.1. The Examiner respectfully replies:

3.9.1.1. The Examiner appreciates the Applicant's argument, but disagrees as follows. Accordingly, the rejections are maintained.

3.9.1.2. First, the argument above recites that as part of claim 1, "the required function is optimized with regard to its parameters, and an influence of the setting constants is taken into account separately from the optimization during simulation", but according to paragraphs [0021]-[0023] of the substitute specification recited above, the only simulation appears to occur in the external source. Further, according to paragraph [0023], first sentence, the required function is optimized, but the required function includes the setting constants and there is no indication that the setting constants are ignored during the optimization (or taken into account separately). Indeed, paragraph [0004] appears to indicate that the setting constants are taken into account during optimization. Also, paragraph [0023] appears to indicate that the influence of the settings constants is taken into account during optimization, as recited in the second sentence, "another optimization process 101 can be carried out taking into account the cost constants 103".

4. Regarding claims 1 - 43 rejected under 35 U.S.C. § 112, second paragraph:

4.1. Applicant's amendments to the claims overcome the rejections based upon antecedent issues regarding "the required function", however, the amendments do not appear to clarify the issues regarding optimization of a function, as contrasted with optimization of parameters.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5.1. Claims 1, 12 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention:

5.1.1. Claim 1 recites in lines 13 - 15, "the required function is optimized with regard to its parameters and afterwards an influence of the setting constants during simulation is taken into account separately from the optimization". This limitation was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5.1.2. Claim 12 recites in lines 15 - 17, "the required function is optimized with regard to its parameters and afterwards an influence of the setting constants

during simulation is taken into account separately from the optimization". This limitation was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5.1.3. Claim 13 recites in lines 19 - 21, "the required function is optimized with regard to its parameters and afterwards an influence of the setting constants during simulation is taken into account separately from the optimization". This limitation was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.1. Claims 1 - 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6.1.1. Regarding claims 1, 12 and 13, the claims recite in the last limitation, "the required function is optimized with regard to its parameters". In a previous limitation the parameters are optimized for a required function. It appears that

parameters may be optimized since a parameter may be varied, but it is unclear how a function is optimized. Correction or amendment is required.

6.1.2. Regarding claims 1, 12 and 13, the time ordering of simulation and optimization is unclear. It is unclear whether the simulation of the technical system is performed, followed by parameters being optimized for a required function, followed by a function being optimized with regard to its parameters, or whether some other sequence of actions is intended. Correction or amendment is required.

6.1.3. Claims 2 - 11 and 14 - 43 are rejected based on their dependency on their respective intermediate and parent claims which are rejected under 35 U.S.C. 112.

Allowable Subject Matter

7. Any determination of allowability of the claims is being held in abeyance pending resolution of the remaining issues.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

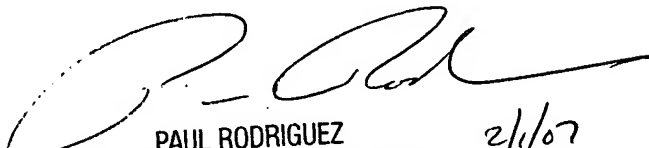
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russ Guill whose telephone number is 571-272-7955. The examiner can normally be reached on Monday - Friday 10:00 AM - 6:30 PM.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist: 571-272-2100.
11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RG

Russ Guill
Examiner
Art Unit 2123


PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
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